

## Toe-Up Two-Circular Crew Socks

Toe up is the Eastern method of knitting socks. It's also my preferred method of knitting socks. Maybe it will become yours too.

My method of knitting socks is simple, start with a short-row toe; knit to the heel, work a short-row heel, knit the cuff, and bind off with a Tubular bind off that's very similar to the Kitchener stitch. The skills necessary to accomplish this form of sock knitting are; a provisional cast on, picking up stitches to complete the foot circumference, knitting a short row heel and toe, and, a Tubular bind off for either a k1 p1 or k2 p2 rib, all on two circular needles.

Socks can be knit with any yarn and to any size. To determine your gauge choose needles that are smaller than you would normally use for the yarn weight because socks require a firm gauge to wear well. (Example: I use US size 3 or 4 needles with worsted weight yarn)

**Finished Size:** Any size you want.

**Yarn:** My recommendation for beginning toe-up, short-row sock knitters is light colored worsted weight yarn so that it's easy to see the stitches. But any yarn weight from fingering to bulky can be used. A basic pair of adult medium to large socks in worsted weight yarn will take approximately 5 oz. A pair in fingering weight yarn takes 3.5 to 4 oz, DK weight takes the same as worsted, and a pair of bulky socks will take from 5 to 6 oz depending on length of foot and cuff. About a yard of a smooth yarn to use as waste yarn.

**Needles:** Two 24" circular needles in the following sizes: Fingering weight yarn – Size 2.0 mm to 2.75 mm. Sport weight yarn – Size 2.0 mm to 3.25 mm. DK weight yarn – 2.5 mm to 3.5 mm, Worsted weight yarn – 3.0 mm to 3.75 mm, Bulky weight yarn – 3.75 mm to 4.5 mm.

**Notions:** Tapestry needle.

**Gauge:** After choosing yarn and needles knit a gauge swatch to determine your gauge. The goal is a firm gauge that will hold up well as socks.



## Pattern

**Measurements:** A medium woman's foot is about 10" long and 8.5" around.

Measuring the foot of the recipient – all measurements are made while seated with the foot placed flat on the floor.

Measure the circumference, C, of the foot at the widest point. This number multiplied by your gauge will give the total number of stitches for the sock. The number should be divisible by four so you will probably have to fudge the numbers a bit. My advice is to round down to get the total number of stitches for the sock.

**Example:** my US size 9 foot is 9" around, my gauge is 5.5 st/in,  $9 \times 5.5 \text{ st/in} = 49.5$  stitches to cast on. To make a number divisible by 4 I subtract 1.5 st to get 48 total stitches to cast on.

If you like your socks to fit snugly you can subtract stitches, always multiples of 4. For a loose fitting sock add stitches, again multiples of 4.

### Handy sock formula based on percentages – ala EZ

<b>Circumference:</b>	$C = 100\% = \text{gauge} * \text{st/in}$ Must be divisible by 4
<b># of toe/heel stitches:</b>	$C * 50\%$
<b># of stitches between yarnovers:</b>	$C * 20\%$ for the average foot $C * 15\%$ for pointed foot, and $C * 25\%$ for a blunt foot
<b># of ankle rows:</b>	$C * 20\%$
<b>Length of foot/cuff:</b>	$C \pm 1$ (C plus or minus 1)

This pattern for Toe-Up socks requires a provisional cast on. A provisional cast on uses a waste yarn that is removed later so that the knitting can continue without picking up stitches. Cat Bordhi has a great provisional cast on that uses the second circular needle. It's described in her baby life ring sock pattern -

<http://www.catbordhi.com/documents/BabyLifeRingSocksWeb.pdf>

Cast on half the total number of stitches required for the circumference of the sock using a smooth waste yarn and one circular knitting needle. Cotton is a good choice to use with wool.

### Decreasing the toe/heel

- Row 1:** Knit to the last stitch. Turn leaving one stitch on the left needle.
- Row 2:** With the yarn in back purl the first stitch, pair made. Continue to purl the row up to the last stitch. Turn leaving one stitch on the left needle.
- Row 3:** With the yarn in front knit the first stitch, pair made. Continue to knit the row up to the first pair made. There will be 1 pair plus one stitch on the left needle. Turn.
- Row 4:** With yarn in back purl the first stitch, pair made. Continue to purl the row up to the first pair on the left needle. There will be 1 pair plus one stitch on the left needle. Turn.

Repeat rows 3 and 4 until there are  $(C * 20\%)$  \_\_\_\_\_ stitches left between the stitch pairs and ending with a purl row.

## Increasing Back to the Beginning

**Row 1:** With yarn in front knit the first stitch, pair made. Knit to the first pair on the left needle. Knit the first stitch of the pair. Correct the stitch count of the yarnover on the left needle. K 2 tog. Turn.

**Row 2:** With yarn in back purl the first stitch, pair made. Continue to purl the row up to the first pair on the left needle. Purl the first stitch of the pair. SSP – (Slip the yarnover as if to knit, slip the first stitch of the next pair as if to knit, place both stitches back onto left needle, P 2 tog TBL (through the back loop – left to right)). Turn.

**Row 3:** With yarn in front knit the first stitch, pair made. Knit to the first pair on the left needle. Knit the first stitch of the pair. Correct the stitch count of the two yarnovers on the left needle. K 3 tog. Turn.

**Row 4:** With yarn in back purl the first stitch, pair made. Continue to purl the row up to the first pair on the left needle. Purl the first stitch of the pair. SSSP – (Slip the two yarnovers as if to knit, slip the first stitch of the next pair as if to knit, place all three stitches back onto left needle, P 3 tog TBL (through the back loop – left to right)). Turn.

Repeat rows 3 and 4 until all the stitches are being worked ending with a knit row.

Remove waste yarn and pick up stitch loops using the 2<sup>nd</sup> circular needle.

Knit in the round until foot measures 1" less or 1" more than C. Another rule of thumb is to knit the foot until it's approximately 2" less than the foot length.

Using the stitches on only one circular needle, leaving the stitches on the other needle alone, work the heel exactly the same as the toe.

When the heel is completed resume knitting in the round for  $(C * 20\%)$  \_\_\_\_\_ rows. – Ankle stitches.

**Example:** C = 48 stitches.  $48 * .2 = 9.6$  rows. Round up and get 10 rows.

Alternatively knit approximately 1" of stitches in stockinette stitch. After the ankle rows are done work k2p2 ribbing in the round for the required length. Bind off very loosely or do a tubular bind off for k2 p2 rib.

## Resources:

**Long-tail cast on** - [http://knitty.com/ISSUESummer05/images/co\\_longtail.MOV](http://knitty.com/ISSUESummer05/images/co_longtail.MOV)

**Yarn Over Short row tutorials** –

[http://alison.knitsmiths.us/shortrow\\_tutorial.html](http://alison.knitsmiths.us/shortrow_tutorial.html)

<http://avocations.blogs.com/ShortRowHeels/index.htm>

**Other short-row tutorials** -

<http://www.knitty.com/ISSUESummer03/FEATbonnetric.html>

<http://knittinggeek.com/simple/2005/03/magic-of-short-rows.htm>

<http://www.knittingatknoon.com/SRShoulder.mpg> - 3 Mb QuickTime movie.

[http://www.purlwise.com/2004/02/post\\_1.html](http://www.purlwise.com/2004/02/post_1.html) - hiding wraps on the purl side.

[http://nonaknits.typepad.com/nonaknits/tips\\_and\\_techniques/index.html](http://nonaknits.typepad.com/nonaknits/tips_and_techniques/index.html) - scroll about halfway down for an in depth look at short rows.

**Vogue Knitting: The Ultimate Knitting Book**

This book is a great reference for just about anything knitting. The tubular bind-off for k2 p2 rib is described here.

**Reader's Digest Knitter's Handbook** by Montse Stanley

A more in-depth resource than Vogue Knitting without the great photography. Has many ways to bind off and cast on, including the tubular method of bind off for k2 p2 rib.

**Twisted Sisters Sock Workbook** by Lynne Vogel

A great discussion on not only socks but also spinning and dyeing yarn.

**Simple Socks, Plain and Fancy** by Priscilla A. Gibson-Roberts

This book goes into detail on the yarnover short row method and has several patterns.